

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the captioned patent application:

Listing of Claims:

1. (Currently Amended) An implantable device ~~for mounting to a patient's bone~~ comprising:
a housing ~~to be secured to a patient's bone~~ configured to prevent osseointegration of said housing with bone;
one or more components mounted in ~~the said~~ housing; and
at least one osseointegrating protuberance configured to osseointegrate wherein said protuberance to extends ~~extending from a surface of the said~~ housing.
2. (Currently Amended) The implantable device of claim 1, wherein ~~the said~~ housing surface ~~from which the at least one osseointegrating protuberance extends~~ comprises a housing surface is configured adapted to abut the patient's bone.
3. (Cancelled)
4. (Currently Amended) The implantable device of claim 1, wherein ~~the said~~ at least one osseointegrating protuberance extends from ~~the said~~ housing surface toward the patient's bone when the implantable device is in an implant orientation adjacent the patient's bone.
5. (Currently Amended) The implantable device of claim 4, wherein ~~the said~~ at least one osseointegrating protuberance ~~comprises~~ comprises:
two osseointegrating protuberances having longitudinal axes that lie in a ~~same~~ plane at opposing angles relative to an implant axis, wherein said implant axis is substantially orthogonal with an abutting said housing surface and with said adjacent the bone surface of the patient's bone.

6. (Currently Amended) The implantable device of claim 5, wherein the said opposing angles between the said longitudinal axes of the said osseointegrating protuberances and the said implant axis are each approximately between 5 and 85 degrees.

7. (Currently Amended) The implantable device of claim 1, wherein the tissue-stimulating prosthesis ~~implantable device~~ is a cochlear ~~tissue stimulating~~ prosthesis.

8. (Currently Amended) The implantable device of claim 7, wherein said tissue stimulating prosthesis is a cochlear implant, and further wherein ~~the housing and the~~ said one or more components comprise a stimulator unit of the cochlear implant.

9. (Currently Amended) The implantable device of claim 8, wherein a receiver antenna is operatively connected to ~~the housing, said housing, and wherein the housing and the one or more components comprise a stimulator receiver unit of the cochlear prosthesis.~~

10-12. (Cancelled)

13. (Withdrawn) The implantable device of claim 1, wherein the at least one osseointegrating protuberance is configured to be permanently implanted in the patient's bone.

14. (Currently Amended) The implantable device of claim 1, wherein ~~the~~ said at least one osseointegrating protuberance is configured to be extricated from the bone subsequent to osseointegration.

15. (Withdrawn) The implantable device of claim 1, wherein the at least one osseointegrating protuberance is configured to prevent significant relative lateral movement between the implanted device and the patient's bone.

16. (Withdrawn) The implantable device of claim 1, wherein the at least one osseointegrating protuberance comprises at least one loop member.

17. (Withdrawn) The implantable device of claim 1, wherein the at least one osseointegrating protuberance comprises at least one aperture.

18. (Withdrawn) The implantable device of claim 1, wherein the at least one osseointegrating protuberance comprises at least one substantially smooth shaft.

19. (Withdrawn) The implantable device of claim 18, wherein the at least one substantially smooth shaft comprises a plurality of substantially smooth shafts each having a longitudinal axis, wherein the longitudinal axes of the shafts lie in different planes.

20. (Currently Amended) The implantable device of ~~claim 1~~claim 22, wherein ~~the said~~ at least one osseointegrating protuberance comprises at least one threaded shaft.

21. (Currently Amended) The implantable device of ~~claim 20~~claim 1, further ~~comprising~~ comprising:

at least one elongate flange extending from ~~the said~~ housing in a direction substantially parallel with a surface of the bone when the device is in an ~~implantable position~~ implant orientation, and wherein each of ~~the said~~ at least one ~~threaded shaft~~ osseointegrating protuberance is operationally disposed on one of ~~the said~~ at least one flange so as to be laterally offset from ~~the said~~ housing.

22. (Currently Amended) The implantable device of claim 21, wherein ~~the said~~ at least one laterally offset ~~threaded shaft~~ protuberance is configured to be manipulated to extricate ~~the said~~ shaft ~~protuberance~~ from the bone subsequent to osseointegration.

23. (Currently Amended) The implantable device of ~~claim 22~~claim 20, wherein ~~the said~~ protuberance is a screw and wherein said ~~at least one laterally offset threaded shaft is a part of~~ said screw.

24. (Currently Amended) The implantable device of claim 21, wherein the ~~said~~ at least one elongate flange and housing surfaces are ~~non-osseointegrating~~, is configured to prevent osseointegration.

25. (Withdrawn) The implantable device of claim 1, wherein the at least one osseointegrating protuberance comprises at least one fastening member mounted to a support.

26. (Withdrawn) The implantable device of claim 25, wherein the at least one fastening member comprises one or more of the group consisting of:

- a screw;
- a clip; and
- a nail.

27. (Currently Amended) The implantable device of claim 1, wherein the ~~said~~ at least one ~~osseointegrating~~ protuberance is formed of or coated with one of either titanium or titanium alloy.

28. (Currently Amended) The implantable device of claim 1, wherein the ~~said~~ at least one ~~osseointegrating~~ protuberance ~~has comprises a~~ protuberance surface treatment ~~that encourages configured to encourage~~ osseointegration.

29. (Cancelled)

30. (Currently Amended) The implantable device of claim ~~29~~ 1, wherein the ~~said~~ housing is formed of a material coated with a biocompatible silicone.

31. (Currently Amended) The implantable device of claim ~~29~~ 1, wherein the ~~said~~ housing is formed from at least one of a biocompatible metallic, ceramic and polymeric material.

32-39. (Cancelled)

40. (Withdrawn) The prosthesis of claim 32, wherein the at least one osseointegrating protuberance comprises at least one loop member.

41. (Withdrawn) The prosthesis of claim 32, wherein the at least one osseointegrating protuberance comprises at least one aperture.

42. (Withdrawn) The prosthesis of claim 32, wherein the at least one osseointegrating protuberance comprises at least one substantially smooth shaft.

43. (Withdrawn) The prosthesis of claim 42, wherein the at least one substantially smooth shaft comprises a plurality of substantially smooth shafts each having a longitudinal axis, wherein the longitudinal axes of the shafts lie in different planes.

44-48. (Cancelled)

49. (Withdrawn) The prosthesis of claim 32, wherein the at least one osseointegrating protuberance comprises at least one fastening member mounted to a support.

50. (Withdrawn) The prosthesis of claim 49, wherein the at least one fastening member comprises one or more of the group consisting of:

- a screw;
- a clip; and
- a nail.

51-88. (Cancelled)

89. (New) The implantable device of claim 1, wherein the implantable device is a tissue stimulating prosthesis.

90. (New) The implantable device of claim 89, wherein said housing and said one or more components comprise a stimulator unit of a cochlear implant.

91. (New) The implantable device of claim 1, wherein each said at least one protuberance comprises at least one features that facilitates osseointegration.

92. (New) The implantable device of claim 1, wherein each said at least one protuberance is configured to prevent substantial relative lateral movement between the implantable device and the patient's bone.

93. (New) A method for implanting an implantable device having a housing configured to prevent osseointegration and at least one osseointegrating protuberance extending from the housing, the method comprising:

forming a pocket on a patient's bone to receive the housing;

positioning the housing in said pocket such that the at least one protuberance is in direct contact with the patient's bone; and

allowing osseointegration of the at least one protuberance to occur in the absence of manual assistance,

whereby when the at least one protuberance is osseointegrated the housing is not osseointegrated.

94. (New) The method of claim 93, wherein the at least one protuberance comprises at least two protuberances, the method further comprising:

positioning said at least two protuberances adjacent surfaces of the patient's bone.

95. (New) The method of claim 94, wherein the at least two protuberances each have longitudinal axes that lie in a same imaginary plane at opposing angles relative to an implant axis is substantially orthogonal with the housing surface, the method further comprising:

positioning said at least two protuberances to the patient's bone such that the implant axis is substantially orthogonal to the patient's bone.

96. (New) The method of claim 95, wherein the opposing angles between the longitudinal axes of the protuberances and the implant axis are each approximately between 5 and 85 degrees.

97. (New) The method of claim 93, wherein the implantable device is a tissue stimulating prosthesis.

98. (New) The method of claim 97, wherein the tissue stimulating prosthesis is a cochlear implant.

99. (New) The method of claim 93, wherein forming a pocket comprises:

forming said pocket in one of either the periosteum of the patient's bone, the patient's skull bone, and a mastoid process of the skull bone.

100. (New) The method of claim 93, further comprising:

extricating said at least one protuberance from the bone subsequent to osseointegration of the protuberance.

101. (New) The method of claim 93, wherein the implantable device further comprises a flange extending from the housing in a direction substantially parallel with a surface of the bone when the device is in an implant orientation, wherein one or more of the at least one protuberance is disposed on the flange such that the one or more protuberances are laterally offset from the housing.

102. (New) The method of claim 101, further comprising:

manipulating, subsequent to osseointegration, the one or more laterally-offset protuberances to extricate the one or more protuberances from the bone.

103. (New) The method of claim 102, wherein the at least one elongate flange is configured to prevent osseointegration.

104. (New) The method of claim 93, wherein the at least one protuberance is formed of or coated with one of either titanium or titanium alloy.

105. (New) The method of claim 93, wherein the at least one protuberance comprises a protuberance surface treatment configured to encourage osseointegration.

106. (New) The method of claim 93, wherein the housing is formed of a material coated with a biocompatible silicone.

107. (New) The method of claim 93, wherein the housing is formed from at least one of a biocompatible metallic, ceramic and polymeric material.

108. (New) An implantable device comprising:

- a housing to be secured to a patient's bone;
- one or more components mounted in said housing; and
- at least one osseointegrating protuberance, extending from a surface of said housing, configured to be placed in direct contact with but not within the bone and further configured to gradually sink into the bone during osseointegration of said protuberance.

109. (New) The implantable device of claim 108, wherein said housing surface is configured to abut the patient's bone.

110. (New) The implantable device of claim 108, wherein said at least one protuberance extends from said housing surface toward the patient's bone when the implantable device is in an implant orientation adjacent the patient's bone.

112. (New) The implantable device of claim 111, wherein said at least one protuberance comprises:

two protuberances having longitudinal axes that lie in a plane at opposing angles relative to an implant axis, wherein said implant axis is substantially orthogonal with said housing surface and with said adjacent bone surface of the patient's bone.

113. (New) The implantable device of claim 112, wherein said opposing angles between said longitudinal axes of said protuberances and said implant axis are each approximately between 5 and 85 degrees.

114. (New) The implantable device of claim 117, wherein the implantable device is a tissue stimulating prosthesis.

115. (New) The implantable device of claim 117, wherein said at least one protuberance is configured to be extricated from the bone subsequent to osseointegration.

116. (New) The implantable device of claim 117, further comprising:

at least one elongate flange extending from said housing in a direction substantially parallel with a surface of the bone when the device is in an implant orientation, and wherein each of said at least one osseointegrating protuberance is operationally disposed on one of said at least one flange so as to be laterally offset from said housing.